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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,888	07/21/2000	Steven T. Barham	528-008605-US (PAR)	4779
2512	7590	12/21/2004	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			PHU, PHUONG M	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/620,888

Applicant(s)

BARHAM ET AL.

Examiner

Phuong Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,11,13,14 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,11,13,14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is responsive to the RCE filed on 10/25/04.

#### *Drawings*

2. Figure 3 is required to be labeled with label "Figure 3".

The applicant is also noted that the examiner has not received a copy of figure 3 being amended as indicated in red, as stated in the specification amendments, filed on 7/22/04.

Therefore, the amendment cannot be entered, and the objection on Drawing to figure 3 is repeated in this Office. The applicant is now requested to provide a draft/formal copy of figure 3, showing the correction.

#### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, 5, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Felix et al (6,233,231), previously-cited.

As per claim 1, see Felix et al, figures 1, 4 and 6, and col. 3, line 9 to col. 4, line 50, col. 6, line 43 to col. 7, line 8 and col. 8, lines 14-61. Felix et al discloses a method and associated system wherein the system (figure 1) comprises a base unit (100) (as a first transceiver) and the remote unit (113) (as a second transceiver), the base unit including a first transceiver (see figure 4) and a first code generator (inherently included in means (427) of the base unit, and the remote

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unit, which must be configured similar as the base unit, inherently including a second transceiver and a second code generator; and wherein the method/system comprises:

acquiring step/means (inherently included in a remote unit (113)) (see figure 1) for acquiring a received signal being transmitted from a base unit (100);

correlating step/means (inherently included in the remote unit (113)) for correlating the received signal with a first OVSF code sequence (as a first code sequence) having a first code rate, provided by the second code generator, which is corresponding to said first code rate of data that is conveyed in the received signal and performed in step (601) shown in figure 6, in order to detect and recover data from the received signal;

transmitting step/means, in response to an interference detection being performed in step (603) shown in figure 6, for transmitting an acknowledgement from the remote unit to the base station (see col. 8, lines 20-26); and

changing step/means ( (427), CONTROLLER) (see figure 4)) in both the base unit and the remote unit, in response to the interference detection, for changing data rate to the higher rate by changing to a second OVSF sequence (as a second code sequence) having a second code rate that is higher than said first code rate; (see step ((611) shown in figure 6, col. 4, lines 45-50 and col. 8, lines 48-61, (specially, see col. 8, lines 56-61).

Felix et al does not disclose whether said transmitting step/means and said changing step/means are responsive to the correlating. However, Felix et al discloses that the interference detection is a function of  $e_c/I_o$  where  $e_c$  is energy per chip detected and  $I_o$  received interference detected (see col. 8, lines 20-23). Therefore, for an application, in order to check how the interference prevents the remote unit from the data detection/recovery, it would have been

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obvious that one skilled in the art, within his skills, when building Felix et al invention, could calculate the interference detection, based on a function of  $e_c/I_o$  where  $e_c$  is energy per chip of the recover data and  $I_o$  received interference detected wherein the recovered data is derived from the correlating. So, in such a case, in Felix et al, said transmitting step/means and said changing step/means are responsive to the correlating.

As per claim 2, Felix et al discloses that the first and second OVFSF code sequences comprises pn code sequences (Wash codes) (see col. 4, line 26 and figure 2).

As per claim 4, Felix et al discloses a changing step/means (102, 101, 427) in the base unit (see Felix et al, figures 1 and 4) for changing the first OVFSF sequence code to the second OVFSF sequence code; and a changing step/means (inherently included in the remote unit) for changing the first code OVFSF sequence to the second OVFSF sequence when the base unit changes the first OVFSF sequence code to the second OVFSF sequence code so that the remote unit can de-spread by correlating its received signal with the second OVFSF sequence code to recover the data which has been lately spread with the second OVFSF sequence and transmitted from the base unit. Felix et al does not disclose tracking step/means for tracking the first code sequence in the remote unit. However, tracking a code sequence conveyed in a receive signal in a receiver in order to synchronize with said received signal for a signal recovery is well-known in the art, and the examiner takes Official Notice. On the other hand, in Felix et al, the remote unit inherently needs to synchronize with its received signal in order to have data recovered. Therefore, for a synchronization purpose, it would have been obvious for one skilled in the art when building Felix et al invention to implement a tracking step/means for tracking the first code sequence

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conveyed in the received signal acquired by acquiring step/means so that the data could be recovered.

As per claim 5, Felix et al discloses that the steps of changing the first OVSF code sequence to the second OVSF code sequence in the base unit and the remote unit is responsive to the occurrence of an event (603) (see figure 6).

As per claim 18, Felix et al discloses step/means of calculating a probable detection ( $e_c/I_o$ ) of a signal conveying the first code sequence, which is transmitted from the base unit and received by the remote unit, to calculate an interference level as a function of ( $e_c/I_o$ ) where  $e_c$  is energy per chip of the recover data and  $I_o$  received interference detected (see col. 8, lines 20-26); and step/means (427) (see figure 4) of changing the signal to be transmitted at the base unit to a signal coded by the second code sequence if the interference level is below a threshold (see col. 8, lines 45-61). Further, in Felix et al, as a function of ( $e_c/I_o$ ), the interference level is inherently or obviously proportional to parameter ( $I_o$ ), or namely, inversely proportional to ( $e_c/I_o$ ), when the interference level is below a threshold, the corresponding ( $e_c/I_o$ ), in reverse, must be greater than a level, corresponding to said threshold, based on said function of ( $e_c/I_o$ ) for calculating the interference level.

As per claim 17, as applied to claim 16, Felix et al discloses the invention except he does not suggest whether the steps of changing the first and second code are carried out contemporaneously. However, for a promptly corresponding between the base unit and the remote unit, it would have been obvious that one skilled in the art, within his skills, to implement the communication between the base unit and remote unit so that the steps of changing the first and second code would be carried out contemporaneously so that after receiving a second coded

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signal transmitted from the base station, the remote unit could promptly recover data from the received second coded signal.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 6, 7, 11, 13, 14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Felix et al.

As per claim 6, as being explained claim 1, Felix et al discloses the first transceiver (the base unit), the first code generator (427), the second transceiver (the remote unit), the second code generator (427), and the controller circuit (CONTROLLER) wherein the controller circuit changes at said first transceiver and second transceiver to a second sequence having a second code rate higher than a first code rate of a first sequence previously generated at the first transceiver and the second transceiver.

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Claim 7 is rejected with similar reason set forth for claim 2.

As per claim 11, Felix et al discloses that first and second code generator (427) can generate codes having more than two rates (see figure 2).

As per claim 13, as being explained in claim 18, Felix et al discloses step/means of calculating a probable detection ( $e_c/I_o$ ) of a signal conveying the first code sequence, which is transmitted from the base unit and received by the remote unit, to calculate an interference level as a function of ( $e_c/I_o$ ) where  $e_c$  is energy per chip of the recover data and  $I_o$  received interference detected (see col. 8, lines 20-26); and step/means (427) (see figure 4) of changing the signal to be transmitted at the base unit to a signal coded by the second code sequence if the interference level is below a threshold (see col. 8, lines 45-61). Further, in Felix et al, as a function of ( $e_c/I_o$ ), the interference level is inherently or obviously proportional to parameter ( $I_o$ ), or namely, inversely proportional to ( $e_c/I_o$ ), when the interference level is below a threshold, the corresponding ( $e_c/I_o$ ), in reverse, must be greater than a level, corresponding to said threshold, based on said function of ( $e_c/I_o$ ) for calculating the interference level.

Claim 14 is rejected with similar reason set forth for claim 2.

As per claim 16, as applied above to claims 1 and 4, Felix et al discloses step of changing a first code (inherently included in the receiver of the remote unit) to the second OVFSF code sequence, and step of changing a second code (inherently included in the transmitter of the base unit) to a second OVFSF code sequence after waiting for the time that the base unit receives the acknowledgement transmitted from the remote unit about information of the interference detection.



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***Response to Arguments***

7. Applicant's arguments, filed on 7/22/04, to claims 1, 2, 4-7, 11, 13, 14 and 16-18 have been fully considered but they are not, in part, persuasive.

-The rejections under 35 U.S.C. 112, second paragraph, to claims 4, 5, and 18, have been withdrawn since the claims were amended to overcome the rejection.

-With respect to the rejections under 35 U.S.C. 102/103, the applicant mainly argues that with respect to claims 1, 6 and 13, Felix et al does not disclose changing to a code sequence having a higher code rate. The examiner respectfully disagrees, see figure 6, Felix et al discloses step (609, 611) of changing data rate to the higher rate by changing to a second OVFSF sequence (as a second code sequence) having a second code rate that is higher than said first code rate wherein the second OVFSF sequence has its code symbol period "code length", namely, the inverse of its code rate, shorter than the first OVFSF sequence's code symbol period "code length"; (see step ((611) shown in figure 6, (specially, see col. 8, lines 56-61)). Further, the claims do not have other limitations to make the limitation "code rate" distinguishable from Felix et al code rate.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Phuong Phu*

Phuong Phu  
12/10/04

**PHUONG PHU**  
**PRIMARY EXAMINER**

Phuong Phu  
Primary Examiner  
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